



Global Architecture

世界建築

*Frank Lloyd Wright
The Imperial Hotel, Tokyo, Japan. 1915-22
Edited and Photographed by Yukio Futagawa
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帝國大飯店 / 東京 / 日本 / 1915—22年
建築師 / 法蘭克·洛伊德·萊特
攝影 / 二川幸夫
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胡氏圖書

屹立於大災難的建築 (為什麼大地震未摧毀帝國大飯店)——撰 / 法蘭克·洛伊德·萊特 Building Against Doomsday (Why the great earthquake did not destroy the Imperial Hotel), by Frank Lloyd Wright

從幼年起，日本人就常以一種虔誠的心意，凝視著他們那座偉大而靜謐的國家神山——神聖的富士山，在他們的腦海中，它孕育萬物並代表了大地永恆的寧靜，在風起雲湧，日月迭替的變化中，靜靜地透著永恆的訊息，這種高貴而安祥的美感在世界其它地方都不存在的。因此，日本人深深崇拜著它。

漸漸地富士山成為日本人心目中之神山——古日本或新日本之神。然而，造這座山的神秘力量，却陸續地奪去了許多崇拜它的人的生命，因為狹長的島嶼邊那深不可測的海洋——世界上最深的海——其所具有的巨大重量，無情地擠壓著地殼，使得海谷底端裂開了縫隙，又因受海水衝擊，內部火焰形成的瓦斯及熱氣，不斷地膨脹爆炸，因而引發了摧毀萬物生命的大地震動，由於地殼做著令人害怕的波浪運動，使得廣大的地區在一夜之間起了滄海桑田的大變化，它吞噬了村莊，淹埋了島嶼並產生了新的島嶼，高山降低、深谷上升，整個地形發生了逆轉的情形，到處都是火焰，最後造成了恐怖的大火災。

幾百年來這些災害的教訓，人們開始以木頭、紙等材料，建造出較輕巧的房子，但這類材料却極易燃燒，而且火勢一開始就無法遏止，常常燒掉數百戶甚至數千戶人家，有時甚至摧毀了整個村莊。

災害過後，未被海水吞蝕的死者都埋葬了

，人們仍舊像往常一樣再一次無可奈何地說聲：沒有辦法啦！這地震運動似乎是註定要發生而且是無法抗拒的，它所造成的破壞比任何力量都強，是無法單獨以力量來與其相抗衡的。當我打算在地面上建一幢建築物以向這從未靜止的地震挑戰時，在計劃的四年當中，我親眼看到並生活在這種“沒有辦法啦！”悲觀的氣氛中，而我預備採取的對策，決不是用剛硬的力量來抵抗它。

許多外國人隨著百利司令官所率領的艦隊來到日本，打開了日本門戶封閉的政策，因此需要一幢建築以供在首都東京的外國單位能有地方住宿——因為沒有一個外國人能像日本人一樣睡在地板上，這種需求隨著雙方商業往來的增加，也就顯得更加迫切了。那時天皇爲了解決這個問題，便請德國人蓋一幢具有他們風格木製的奇特建築。

不幸的是這個新奇的構想却未能實現，取而代之的是另一個較壯觀的宮廷式建築，這次，皇室希望能與帝國資本家、船主、水泥業者、銀行家、菸草家共享，並提供一個新的住宿地方；而我，一個美國人，被選為這項工作的負責人。

凡是拜訪過日本的外國人，沒有不對他們的傳統致敬的，當外國人來時，他們同時由家鄉帶來許多事物，不論它們是否適合日本，都予謙遜多禮的日本人深刻的印象，日本人大為驚奇，並接受了這些東西，且試著同

terrible work.

The dead not swallowed up are buried, and once more *Shikata-ga-nai* (it cannot be helped) goes patiently on as before. Naturally the earth-waves seem fate and unconquerable. A force useless to combat by strength alone, for it is mightier than any force at man's command. *Shikata-ga-nai!* This stoicism I have seen and lived with four years or more while preparing to meet this awful force by building on ground which the seismograph shows is never for a moment still — preparing to meet the temblor by other means than rigid force.

The foreigner came with the advent of Commodore Perry to share Japanese joys and sorrows. Soon a building was needed to shelter the foreign element of Tokio, the capital of Japan. A social clearing house became necessary as a consequence of the new foreign interest in Japan, because, for one reason, no foreigner could live on the floor. The need steadily increased. At that time the Mikado took it upon himself to meet the need, and asked the Germans to build one of their characteristic national wood and plaster extravaganzas.

That wretched marvel grew obsolete. Need of another, a greater one, imperative. The Imperial household, this time, proposed to share with the capitalists of the Empire, shipowners, cement manufacturers, bankers, tobacco interests, etc. the task of providing the new accommodation, and I, an American, was chosen to do the work.

No foreigner yet invited to Japan had taken off his hat to Japanese traditions. When foreigners came, what they had back home came too suitable or not, and the politely humble Japanese, duly impressed,

樣地回報他們，日本的藝術傳統，是世界上最珍貴的傳統之一，它發源於中國，我直覺地認為應該尊重它，東方文化有許多地方是值得西方去學習的，而自從我見過日本的浮世繪與老子的文章後，即盼望有一天能來日本——進入這通往東方偉大文化的學習之門。

然而地震——對所有的建築物都是個恐怖的自然敵人。

在我設計這幢建築物長達四年多的時間內，對地震的恐懼感無時無刻不纏繞著我，我儘量不去想它，但沒有人能夠忘記它的存在，我常常在夜晚，被一種置身於海上的奇異感覺所驚醒，似乎聽到隆隆的大地之聲，開始是一陣突來的劇烈震動，然平靜下來，繼而開始搖晃，這樣不斷的震動、隆起、以及來回的幌動，給人一種建築物底部要掉下去的感覺；最恐怖的，是看到牆面龜裂，又聽到房子的構架不斷的發生吱吱的呻吟聲，像是整個結構將要倒塌傾覆下來。它對人們幸福的威脅，恐怕比地震本身還要嚴重，我實在不知如此下去會變成什麼樣子。

日本人對地震真是談虎變色，却又無計可施，因為，在極端強烈的震動前，它毫無任何跡象，因此只有慌亂無措。我一直在研究地震，發現它是一種地殼的波浪運動，而非海的運動，同時還併著任何堅硬結構都無法承受的劇烈震動。

因為波動的緣故，像打樁一類的深基礎，

took the offering and marveled. They tried to do likewise in their turn. Japanese fine-art traditions are among the noblest and purest in this world, giving Chinese origins due credit. It was my instinct not to insult them. The West has much to learn from the East — and Japan was the gateway to that great East of which I had been dreaming since I had seen my first Japanese prints — and read my first Lao-tze.

But this terrible natural enemy to all building whatsoever — the temblor!

The terror of the temblor never left me while I planned the building nor while, for more than four years, I worked upon it. Nor is anyone allowed to forget it — sometimes awakened at night by strange sensations as at sea, strangely unearthly and yet rumbling earth-noises. Sudden shocks, subsidence — and swinging. Again shock after shock and upheaval, jolting back and swinging. A sense of the bottom falling from beneath the building, terror of the coming moments as cracking plaster and groaning timbers indicate the whole structure may come crashing and tumbling down. There may be more awful threat to human happiness than earthquake. I do not know what it can be.

The Japanese turn livid, perspiration starts on them, but no other sign unless the violence becomes extreme, then — panic. I studied the temblor. Found it a wave-movement, not of sea but of earth — accompanied by terrific shocks no rigidity could stand.

Because of the wave movements, deep foundations like long piles would oscillate and rock the structure. Therefore the foundation should be short or shallow. There was sixty to seventy feet of soft

From infancy, a sort of subjective contemplation, minds and hearts of Japanese are fixed upon the great calm mountain God of their nation — sacred Fujiyama brooding in majesty and eternal calm over all. They deeply worship as the mountain continually changes moods, combining with sun and moon, clouds and mist, in a vast expression of elemental beauty the like of which in dignity and repose exists nowhere else on earth.

It is not too much to say that the sacred mountain is the God of old Japan; Japan the Ancient Modern.

The dreaded force that made the great mountain continually takes its toll of life from this devoted people, as the enormous weight of the deep sea beside the tenuous island, deepest sea in the world, strains earth-crust, opening fissures in the bottom of the great valley in which it rests and the sea rushes down to internal fires to become gas and steam expanding or exploding internally, causing earth convulsions that betray the life on the green surface. Great wave movements go shuddering through the body of their land, spasmodically changing all overnight in immense areas. Whole villages disappear. New islands appear as others are lost and all on them. Shores are reversed as mountains are laid low and valleys lifted up. Always flames! The terror of it all faces conflagration at the end.

Trained by these disasters of centuries to build lightly on the ground — the wood and paper houses natural to them may be kindled by spark. When fire starts it seldom stops short of several hundred homes. Usually thousands or complete destruction. So, when the earthquake is violent, fire finishes the

會隨之搖擺而破壞建築物，因此，應該用淺而短的基礎；在基地八呎深的表土下，約有六七十呎深的軟泥，這真是件可愛的贈品，因為它可以當做墊子來減輕那可怕的震動力，所以為什麼不把建築物浮在軟泥上呢？就像船隻浮在海上一樣，同時，為什麼不用輕巧細薄並具彈性的材料，去取代堅固沉重的建築物？又為什麼不把建築物建造的像合掌的雙手一樣——掌心向內，十指交叉可隨意變形——當扭屈現象消失時，仍可恢復到原來的位置，亦即具有往任何方向彎曲的彈性——為什麼要與地震力相抗拒？為什麼不與它和諧的相處而以智取勝？

這就是我開始計劃這幢建築時的想法。

最重要的問題，是如何使像乳酪般 8 呎深的表土，能夠傳遞力量至其下的稀泥。在規劃的第一年中，我挖了一個直徑 9 呎深 8 呎的洞，然後注入混凝土，而製成了試驗基樁，再運來一卡車生鐵，逐漸加在樁上，直到它沈入地下，然後紀錄載重情形及反應結果。試驗基樁遍佈整個基地，如此便可找到鬆軟地質帶。因為地下水位就在地面下 2 呎深處，所以鑽洞一完成後，就得立刻灌漿；先以尖頭木樁往下打，再把它抽出來，在抽離洞口的瞬間，馬上將混凝土灌入。

搜集了這些資料，基礎平面便完成了，在牆基分佈的整個區域內，每隔 2 呎配置一根混凝土基樁，如此，整個 8 呎深的表土，便

可由表面部分承受力量了，這相當簡單，寬廣基礎下面的土壤受擠壓後，會增加基樁的摩擦力，實驗結果顯示，擠壓可有效地增摩擦力，因此建築物沉陷 5 吋，將會使樁更深一點，這十分經濟，但却是危險且複雜的。

最後再精確地計算建築物的重量，並根據試驗所得資料配置，把建築物“浮”在地表下層鬆軟土質上，結果它確實不出我的所料，只不過位置有些變更而已。

這種基礎比當時東京其它型式的基礎，要省下十幾萬美金，但假若帝國飯店業主只膚淺地知道這種做法，可能就會反對它了，傳說當時亦曾經打算反對；然而在此，平均載重的基樁，如墊子般的軟泥，造成了理想的震動吸收器，在大地震這個審判之日來時，確實的發揮了它的作用。

現在要決定的，是如何以彈性結構去取代笨拙的堅固結構？於是我們把建築物分成小單元，對於必須超過 60 呎長的部分，則把它們清楚地以樓版、牆壁、屋頂及其它部份分開，再經小心設計的接頭將其連接起來，甚至單元之間也用接頭連接，到目前為止，一切都經過良好的判斷及小心的考慮。

若由牆來支承樓板，來自地面下的擾動，會移動牆壁而使樓版掉下來，因此我們為什麼不像侍者高舉著手臂用手指托住盤子中央那樣去支承樓板呢？亦即平衡全部載重將所有支撐集中在樓版下面，而不是如通常那樣

把它放在牆的邊緣上。

因此我採用懸臂梁的作法，據我到目前的發現為止，懸臂樑是所有構造原理中最浪漫最自由的一種，在這種情況下它似乎也是最為合理的結構，侍者用手托住盤子的中央，在理論上就是懸臂版。東京帝國飯店即為如此，用連續的混凝土懸臂版如托盤子般被支撐著，而跨越建築物的兩邊。

日本房子的屋瓦，在地震時不知奪去了多少日本人的生命，所以我便設計了一種手製的輕質綠銅屋頂，如此，怎麼會再傷到人呢？

外牆相當寬廣，厚重的底端，愈往上愈薄且輕，不像其它東京的建築都是頭重腳輕的。如此可降低重心以抵抗地震的搖動，並且造成了優美的坡度，成為設計上的特徵，懸臂版穿過牆所露出來的兩底部份，都裝飾成孔狀以減輕重量並增加陰影效果。在東京，腳底下踩的到處都是材質良好的火山岩（大谷石），重量像橡樹一樣輕，但這幢貴族式建築若採用如此普通的材料，也許會被認為是冒瀆，但我最後還是採用了這種石材當主要材料，而它也確實成功的達到了建築師希望表達的造型感覺。整個結構是由双重殼所組立——外殼是由纖細靈巧的磚所組成，內面則是由有凹槽的空心磚所組成，高有 4 呎多，再澆灌混凝土使它們堅硬地聯成一體。

因此，由磚及大谷石便鑲嵌成了這幢偉大

mud below the upper depth of eight feet of surface soil on the site. That mud seemed a merciful provision — a good cushion to relieve the terrible shocks. Why not float the building upon it? A battleship floats on salt water. And why not extreme lightness combined with tenuity and flexibility instead of the great weight necessary to the greatest possible rigidity? Why not, then, a building made as the two hands thrust together palms inward, fingers interlocking and yielding to movement — but resilient to return to original position when distortion ceased? A flexure — flexing and reflexing in any direction. Why fight the quake? Why not sympathize with it and outwit it?

That was how the building began to be planned.

The most serious problem was how to get the most carrying power out of that eight feet of cheese-like soil that overlay the liquid mud. During the first year of plan-making, I made borings nine inches in diameter eight feet deep and filled them with concrete. Arranged to test the concrete pins thus made. Got carloads of pig iron and loaded the pins until they would drive into the ground. Kept the test figures of loads and reactions. Took borings all over the site to find soft pockets. Water stood in the holes two feet below the surface, so the concrete had to go in quickly as the borings were completed. Later, tapered piles were driven in to *punch* the holes and pulled out — the concrete thrown directly in as soon as the pile was out of the way.

These data in hand, the foundation plan was made to push these concrete pins two feet on centers each way over the entire areas on which the wall footings were to spread. The strength of the whole

depth of eight feet of top soil was thus brought to bear at the surface. That was simple. Here was a compressible soil that might take a squeeze under the broad footings to add to the friction of the pins. Experiments showed the squeeze could safely be added to the friction. This meant a settlement of the building of five inches, the building itself driving the piles that much deeper. This was economy, but dangerous and more complicated.

Finally the building was computed pound by pound and distributed according to test data to “float” below the grade of the ground surface — and it did. With some few slight variations it stayed there.

This foundation saved hundreds of thousands of dollars over the foundations then in use in Tokio. But had the owners of the Imperial superficially known what was contemplated something might have happened to prevent it. Rumor nearly did prevent it. Here, however, was the desired shock-absorber, a cushion, pins and all, to be uniformly loaded and put to work against the day of reckoning.

Now how to make the flexible structure instead of the foolish rigid one? Divide the building into parts. Where the parts were necessarily more than sixty feet long, joint these parts clear through floors, walls, loodings and all, and manage the joints in the design. Wherever part met part, through joints also. So far, good sense, and careful calculation.

A construction was needed where floors would not be carried between walls, because subterranean disturbances might move the walls and drop the floors. Why not then carry the floors as a waiter carries his tray on upraised arm and fingers at the

center — *balancing* the load? All supports centered under the floor slabs like that instead of resting the slabs on the walls at their edges as is usually the case?

This meant the cantilever, as I had found by now. The cantilever is most romantic, most free, of all principles of construction, and in this case it seemed the most sensible. The waiter's tray supported by his hand at the center is a cantilever slab in principle. And so concrete cantilever slabs continuous across the building from side to side, supported in that way, became the structure of the Imperial Hotel at Tokio.

Roof tiles of Japanese buildings have murdered countless thousands of Japanese in upheavals, so a light hand-worked green copper roof was planned. Why kill more?

The outer walls were spread wide, thick and heavy at the base, growing thinner and lighter toward the top. Whereas Tokio buildings were all top-heavy. The center of gravity was kept low against the swinging movements and the slopes were made an esthetic feature of the design. The outside cover-hangs of the cantilever slabs where they came through the walls were all lightened by ornamental perforations enriching the light and shade of the structure. The stone everywhere under foot in Tokio was a workable light lava weighing as much as green oak. It was considered sacrilege to use this common material for the aristocratic edifice. But finally it was used for the feature material and readily yielded to any sense of form the architect might choose to indicate. And the whole structure was to be set up as a double shell — two shells, an exterior of slim

建築具有質感的表面。地震常將埋於結構體中的管線拉斷，使得建築物漏水漏電，所以我把管線全部安置於地下室地板中，混凝土覆蓋的溝槽裡，不但與構造分離，甚至獨立於基礎之外，主要及所有的水管都是用鉛管焊接的，由溝槽彎曲引入垂直方向的管道間時，鉛管亦是與構造分離而懸吊著的，由此再分出支管轉彎而進入浴廁的管道間。因此，任何震動只能彎曲管線，造成嘎嘎的聲音，而無法破壞它。

最後，在入口前庭中，有一個大水池，它是設計上一個重要的部份——它與旅館的供水系統相連接，並收集了屋頂排下來的水。

因此在整個平面計劃中，可以說所有建築具有的特色都是應實際需要而產生的，同時，爲了尊重使用這建築物人民的傳統，我慎重的修正了建築上直線與平滑的面之表現的風格，而我設計的本意，也是想充份利用日本人精巧的手藝，做出些細膩的東西，而且我們不知道有什麼機械可用；在這種情況下，我不知道會有多少成功的機會，也許不會很多。

設計終於完成了。

因爲它是如此特殊，所以沒有辦法作任何評估，也沒有任何投資者對它有興趣，除了全部放棄外，就是得由我、業主帝國飯店、及營造商親自經營建造。但是我們彼此之間的語言是個障礙，而且人與做事的方法亦都

不一樣。

但我這外國來的建築師——與協助的18到20位日本大學建築系學生，其中有幾位在平面計劃階段曾經去過威斯康辛州——與另外一個芝加哥來的營造專家保羅繆勒等二個外國人，其他的都是本地人。我們與飯店經理林先生組織起來，以他爲總經理；另外我們又在靜岡買下了一座磚窯，用以製造細長精緻的磚塊，從未有人用這種尺寸與型式的磚來構築外牆，而現在它們已可以使用了。我們也開始製造有溝槽的空心磚用在內殼上，這在日本也是首次採用；我們又，在日光附近的大谷買了一個很好的大谷石開採場，以做爲表面材料，並開始將石塊運往東京的基地，如此像流水般不斷的堆積成這棟建築物，前後長達四年之久，使得大谷地面形成了像建中央車站所挖的洞穴一樣。

在建造期間我們有100多位手工精巧的石工，在綠色有斑點的大谷石上鑿出建築物所需呈現的質感，四年中我們平均約僱了六百個工人，他們大部份來自近郊，就住在工地附近，帶著家人，在那兒燒飯、洗衣、及睡覺。我們試著很懇切地教他們如何去建造，用我們之間工作方法差異中的折衷方法——但有時因無法溝通而使我們的態度變得粗魯而暴烈。

我們試著教工人使用鑿石機，但沒多久，鑿石機便被石斧所鑿出的灰屑埋沒了，我們

又試著用各種起重設備，但他們却寧願用肩膀抗著重物及大量石塊，以斜板上下，我們也曾試著放棄鷹架教他們從內部開始砌磚，但也沒有成功。

然而他們是多麼地熟練！是這麼好的工匠，又是如此地有耐心與聰明，所以，既然無法使他們採用我們的方法，那就以他們的方法去做了。我修正了許多當初的構想，而充份去利用他們的習慣；語言的困擾漸漸少了，但却出現許多莫名其妙的錯誤。日本人常以迂迴的方法去處理許多事情，他們的天性便是在著手的方向，避免正面接觸或是用繞著圈子的手法，但他們以溫和、精明及忠誠的態度補償了這種缺失，而我們也很快地學習到這些，彼此合作的相當好。

在這廣大的工地內，到處堆積著建造平台及中庭的建築材料，好幾百戶的住家也分布四周，在這似乎是毫無希望的混亂情況下，建築物的輪廓漸漸顯現出來了，工人們對這件事也愈來愈感興趣，而且當某些精緻部份粉刷完成時，常常可發現他們也成群地讚嘆評論——而且是十分正確的批評。

在此有一種我國建築界所沒有的溫馨的關懷與誠實，這是一種相當好的體驗。

工作上令他們不滿的是休假問題，我們是以每二週休息二天的方式來取代星期日，而他們大部份的人僅恢復體力就需要一天或兩天，所以進度落後了，還有那雨季，日本人

cunning bricks, and an interior one of fluted hollow bricks raised together to a convenient height of four feet or more. These shells were to be poured solid with concrete to bind them together.

The great building thus became a jointed monolith with a mosaic surface of lava and brick. Earthquakes had always torn piping and wiring apart where laid in the structure and had flooded or charged the building. So all piping and wiring was to be laid free of construction in covered concrete trenches in the ground of the basements, independent even of foundations. Mains and all pipes were of lead with wiped joints, the lead bends sweeping from the trenches to be hung free in vertical pipe shafts, from which the curved lead branches were again taken off, curved, to the stacks of bathrooms. Thus any disturbance might flex and rattle but not break the pipes or wiring.

Last but not least there was to be an immense reservoir or pool as an architectural feature of the entrance court — connected to the water system of the hotel and conserving the roof water.

Thus the plans were made so that all architectural features were practical necessities, and the straight line and flat plane were respectfully modified in point of style to a building bowing to the traditions of the people to whom the building would belong. The *nature* of the design too, I wanted to make something their intensive hand methods could do well, because we didn't know what machinery could be used. It was impossible to say how far we could go with that. Probably not very far.

Finally the plans were ready.

No estimates could be had. It was all so unfamiliar,

no commercial concern would touch it. Nothing left but to abandon the whole or organize to build it ourselves. The Imperial Hotel and its architect and builder. The language was a barrier. The men and methods strange.

But the foreign architect — with eighteen or twenty architectural students from the Japanese universities, several of whom were taken to Wisconsin during the plan-making period — and one expert foreign builder, Paul Mueller of Chicago, two foreigners, all else native, we organized with the hotel manager, Hayashi-San, as general manager. We had already bought pottery kilns in Shizuoka and made the long slim cunning bricks, of a style and size never made before for the outside shell. They were now ready to use. We had also made the fluted hollow bricks for the inside shell, the first in the Empire. We bought a fine lava-quarry at Oya near Nikko for the feature-material and started a flood of dimension stone moving down to the site in Tokio — a stream that kept piling into the building for four years. The size of the hole left in the ground at Oya was about like the excavations for the Grand Central Terminal.

We had a hundred or more clever stone choppers beating out patterns of the building on the greenish, leopard-spotted lava, for that period. On an average we employed about six hundred men continually for four years. As a large proportion of them came from the surrounding country, they lived round about in the building as we built it. With their numerous families, there they were — cooking, washing, sleeping. And we tried faithfully — sometimes frantically and often profanely — to teach them how to build it, halfway between our way and their way.

We tried the stone-planer with the stone-cutters. It was soon buried beneath the chips that flew from their busy stone-axes. Tried derricks and gin-poles and hoists. They preferred to carry heavy loads and enormous stones up inclined planes on their shoulders. We tried to abolish scaffolding and teach them to lay brick from the inside. Not to be done.

How skillful they were! What craftsmen! How patient and clever. So instead of wasting them by vainly trying to make them come our way — we went with them their way. I modified many original intentions to make the most of what I now saw was naturally theirs. The language grew less an obstruction. But curious mistakes were perpetual. It is true that the Japanese approach to any matter is a spiral. Their instinct for attack in any direction is oblique and volute. But they make up for it in gentleness and cleverness and loyalty. Yes, the loyalty of the retainer to his *Samurai*. They soon educated us and all went pretty well.

The countenance of the building began to emerge from the seemingly hopeless confusion of the enormous area now covered by the building materials of its terraces and courts and hundreds of families. And the workmen grew more and more interested in it. It was no uncommon thing to see groups of them admiring and criticizing too as some finished portion would emerge — criticizing intelligently.

There was a warmth of appreciation and loyalty unknown in the building circles of our country. A fine thing to have experienced.

The curse of the work was the holiday. There were no Sundays, but a couple of holidays every fortnight instead, and it took a day or two to recover

說：東京的雨就像地面與天空同時在下似的，我們成功地廢棄了日本大多數建築所普遍使用，昂貴的遮雨棚架及懸掛在四週的草蓆，起初我們十分慶幸，結果發現他們到底比我們更了解此地的氣候，因為假若我們能使工人免除日晒雨淋之苦，整個工作也許會提前七個月完工——同時使一切都更舒適且更具效率。

像此類的「成功」再多一點就吃不消了。理事會定期兩年召開一次，並開始抱怨了。

謠言是從英國人（英國人真愛在東京的美國人啊！）及美國人（為什麼美國人對海外同胞如此不照顧？）傳到理事耳中，使他們認為這建築師是神經病，這種設計任何輕微的地震就會使它崩塌，並沉沒到泥底下去——那兒有足夠的泥層可以容納得下；雖然我們對它一直很熱誠，整個工作却因此拖延下來了。但我的事務所工作人員的忠誠却一點未動搖，而林總經理却每天都在恫吓、苛責，在這關鍵時刻，我們却發現整個工作及裝修還得350萬日元才能完成，至此，情況已相當不樂觀了。

有一小部份工人一直不停地在已建造完成的低層工作，每當建築物某部份完成後，那地方立刻變成一個忙碌的工作場所，所有的銅製部分、鋪面及屋瓦和內部的木作部份及家具全部在那加工——裝修及其它工作亦當

樓版完成後，立刻就在巨大的室內進行。

我從家中帶來許多精美的家具作例子，並把它們分解開來，以便教工人們如何根據設計圖去製造結構物的每個單元，在這方面他們表現的不錯；地毯是在北平設計的，它所編織的顏色與式樣亦與大廳、客房的內部佈置相調和，建築物本體大約已完成了三分之二，由於一個外國人無法掌握預算，也不易有深入詳盡的了解，所以事情又拖了幾年。

預算方面的問題終於爆發了。

理事們又召集在一起開會。

大倉男爵是主席，除了代表他自己的權益之外，他也代表了皇室60%和土地之權利，另外有一位淺野先生，是代表船業公司股份的白髮巨人，他有著白色濃眉及銳利的眼神，是十分有力的人；菸草業股份的代表村井是位令人愉快的和事佬；銀行家岩井是一位矮胖的人，當他站起來時，嘴邊的鬍鬚竟在桌面以下；其他尚有Kanaka氏等六位。

大倉男爵從開始就相當支持我，而現在他却麻煩了，理事會通常都在一個老飯店舉行，有茶點招待，場面十分輕鬆愉快，而這一次却不同了，會議氣氛頗為沉悶，經過了很長一段寂靜的時間，大倉男爵這位80歲還滿頭黑髮的「年輕」人——在帝國中以精明及經濟的操縱者而出名——坐在首席，我在他的左側，右邊坐的是他的秘書，哈佛畢業，擔任翻譯的工作，其他的人坐在什麼地方則不

重要了；他們立刻展開了嚴厲的質詢，我回答主要的問題，而這些問題，不外乎是基礎、基礎——和費用、費用，一個接著一個的問，談不完的基礎與錢。

大倉男爵有時是十分有耐心並有禮貌的，但當他激動時，下唇常會習慣地凸出而且顫動，此時這種個人的怪癖更加明顯了，突然他氣呼呼地站起來，伸著頭，身體略向前傾，雙手握拳重重地敲在桌上——很少看他如此的激動。

現場一片死寂，大倉男爵靜靜地站著，直盯著我，不知為什麼，我本能地站了起來，翻譯也跟著站起來，向我說道：「大倉先生說：如果這個“年輕人”（任何事情都是相對的），能留在日本，直到建築物完成，他大倉先生願設法找到所須要的錢，而且他們可以全部去——」我不知道日本話，他們能去什麼地方。

雖然滿懷著鄉愁，現在又生了病，我仍向大倉先生伸出了手，協定成立了，會議也結束了，理事們陸續的出來，他們非但不為自己因解除了負擔而高興，相反的，却把怒氣加在一個人的身上。

不知道巴森農神殿建造時，Pericles是否扮演著像大倉先生同樣的角色，無論如何，帝國飯店總算繼續進行著，而現在，每位理事都像間諜一樣，隔牆有耳，謠言滿天飛，我們行動受到約束，並在較以前更困難的情

from most of them. So the work dragged. And the rainy season! The Japanese say it rains up from the ground as well as down from the sky — in Tokio. We did succeed in abolishing the expensive cover-shed of tight roof and hanging matting sides under which most buildings are built in Japan. We congratulated ourselves until we found they knew their climate better than we did. Had we protected them from the rain and the burning sun the buildings would have been finished about seven months sooner — besides making all more comfortable and so more efficient.

A few more such “successes” would have been enough.

The directors met regularly for a couple of years and began to complain.

Rumors reached them from the English (the English love the Americans in Tokio) and Americans (why are Americans invariably so unpleasant to one another abroad?) to the effect that the architect of their building was mad. In any earthquake the whole thing would tumble apart — and the whole building would sink out of sight in the mud beneath. There was room enough for it in that cushion of mud. Where all had been pleasant enthusiasm, things began to drag. The loyalty of my own office force never for a moment wavered, but manager Hayashi was daily hectoring and censured. At this crucial time it became apparent that three and a half million yen more would be necessary to complete and furnish the work. Things looked dark.

By now a small army was working away in the lower stories of the building as it was completed. As soon as one portion was built it became a hive of frantic industry. The copper features and fixtures

and roof tiles were all made there; the interior woodwork and furniture — the upholstery and many other things went on in the vast interior spaces as soon as the floor slabs covered them over.

I had brought examples of good furniture from home and took them apart to teach the Japanese workmen how to make them according to the new designs which made them all part of the structure. They were fine craftsmen at this. Rug designs had gone to Peking. The rugs were being woven there to harmonize with the interior features of the great rooms and the guest rooms. We were about two-thirds of the way over with the building itself. The foreigners had no way of keeping track of costs or finding out much about them in detail. So things had gone on for several years.

The crash came.

The directors were called together.

Baron Okura was chairman of the board — representing besides his own interests, the interest of the Imperial Royal Household, sixty percent, besides ownership of the ground. There was also Asano-san — a white-haired Samson of the shipping interests — a powerful man with shaggy white brows and piercing eyes. Murai of the tobacco interests — a peacemaker, with pleasant ways always. Wakai, the banker, as broad as he was long, with a beard that reached below the table when he stood up. Kanaka, a half dozen others.

Baron Okura had rather sponsored me from the beginning. He was in trouble now. The meetings had been held in the old hotel building and were pleasant social affairs with refreshments. This one was not. It looked black. A long time, it had been threatening.

The Baron, a black-haired youth of eighty — a remarkable man regarded as one of the astute financial powers of the Empire — sat at the head of the table. I sat on his left. On his right sat his cultivated secretary, a Harvard graduate, who was interpreter. It doesn't matter where the others were. They were there and all talking at once. I answered the leading questions without end. The foundations. Always the foundations — and the money. The money!

The Baron was patient and polite — for some time. His lower lip had a trick of sticking out and quivering when he became intense. This personal idiosyncrasy of his was evident now. Suddenly he rose — leaned forward, head thrust forward, angry, hissing, pounding the table with both fists — extraordinary conduct for him.

There was silence — the Baron still standing looking over toward me. Not knowing what it was all about I instinctively rose. The interpreter rose, too, and said, “The Baron says that if the ‘young man’ (all things are relative) will himself remain in Japan until the building is finished, he the Baron will himself find the necessary money and they could all go to—” whatever the Japanese word is for the place they could go to.

Although homesick by now and sick besides I reached out my hand to the Baron. The compact was made. The meeting was over. The directors filed out, red and angry to a man, instead of happy to have the responsibility lifted from them.

Was it Pericles who enacted some such role as the Baron's when the Parthenon was building? Anyway, the building of the new Imperial went on. Now every

況下工作，但是我的一群日本學生却始終忠誠地繼續工作下去，直到另一個困境來臨。

“爲什麼不取消水池以省下40,000圓？”理事們向大倉先生游說，大倉覺得有道理，便把我叫去，他決定的事再說也沒用，透過翻譯我告訴他：“這水池是對付地震最後的方法，因爲當地震的災難來臨時，城市的水源會被切斷，在側面對街的木造房屋，會燒及飯店500呎長這個面的木質窗框而引起大火，所以即使結構能禁得起地震，大火也會損及其結構。在東京我可舉出五次恐怖的火災爲証，說明任何不易燃的材料都無法承受那熊熊的火焰牆”。

“不管，水池一定要刪掉”，我說：不行，刪掉水池是錯誤的，在這種衝突下，勢必要解除約定，我可以也很願意立刻回家。我離開他的辦公室，但並沒有離開東京，而水池也在兩年後一場戲劇性的大災變中扮演其決定性的角色。

第二年，我本可以回家了，但東京的氣候除了秋天及早春外，夏冬兩季多雨潮濕的天氣，再加上工作及焦慮，終於使我病倒了。

然而，隨之而來的一個恐怖的考驗，使人恐懼的壓力減輕許多，也使我這個建築師的地位鞏固了不少。

在建築物結構部份就要完成時，我的工務所也移到左翼入口步道的頂部。中午時分，工務所只剩下十來個年輕人，工人們則在附

近，突然間毫無警兆地，來了一陣巨大的幌動，抬起了整個建築物，青年們摔倒扒在他們的圖板上，造成一陣極大的慌亂，當震波再來時，許多人發出了尖叫，結構震動的相當厲害，我被人們撞倒在地上，幸好屋頂上的工人不多，否則我可能被踩死。當我躺在那兒，在樓板傾斜的時候，我可以清楚地看到地面隆起的情形，並聽到各種恐怖的擠壓碎裂的聲音。

就在這時傳來了幾聲隆隆的倒塌聲，我擔心死了，後來才知道那是旁邊舊飯店五個大煙囪倒下來的聲音，它是舊飯店最近的一次大火後剩餘的部份，而在那時候我聽來就好像是工務所後面大宴會廳部分倒塌的聲音。

在這恐怖的經驗中，只有一個忠實的助手留下來——遠藤，我的左右手，他的臉色慘白，冒著冷汗，其它人都跑光了，我倆顫抖著膝蓋站起來，靠在一起走上屋頂，看到街對面擠滿了受驚的工人，甚至連在中庭工作的人，也丟下工具逃命去了，他們臉色發青、全身顫抖、站在那發呆，全城一片異常的死寂。須臾，許多地方起火了，警笛聲四處響起，一場大混亂開始了，婦女拉著嚇壞的小孩奔跑著，下面整條街充滿了哭號聲。

我們剛才經歷到的是52年以來最大的地震，建築物完好如初，傳遞在基礎面上的力，並未使它有任何的移動。

防震的做法証明成功了。

to ten, were there, and workmen were about. Suddenly with no warning a gigantic jolt lifted the whole building, threw the boys down sprawling with their drawing boards. A moment's panic and hell broke loose as the wave motions began. The structure was literally in convulsions. I was knocked down by the rush of workmen and my own boys to save their own lives. It is a mercy there were not more workmen in the roof space beyond, or I should have been trampled out. As I lay there I could clearly see the ground swell pass through the construction above as it heaved and groaned to hideous crushing and grinding noises. Several thunderous crashes sickened me, but later these proved to be the falling of five tall chimneys of the old Imperial, left standing alone by the recent burning of that building.

At the time it seemed as though the banquet hall section, invisible just behind the work-room, had crashed down.

Only one faithful assistant stayed through this terrible ordeal. Endo-San, loyal right-bower — white to the teeth — perspiring. Otherwise the building was utterly deserted. We got up shaking to the knees and went together out onto the roofs. There across the street were crowds of frightened workmen. They had thrown down their tools and run for their lives, even those working in the courts. There they all stood strangely silent, pasty-faced, shaking. A strange silence too was everywhere over the city. Soon fires broke out in a dozen places. Bells rang and pandemonium broke. Women dragging frightened children ran weeping and wailing along the streets below.

We had just passed through the worst quake in

當城市災損情況報導說，我們這幢房子沒有受到任何損壞時，林先生感激的淚水奪眶而出，一年後他去逝了，多麼殘酷的懷疑！多麼困擾的不信任！一年過去，建築物已接近全部完工，我沒有必要再留下來了。另外一翼的房子雖尚未完成，但其構造及裝修與已完成的一半完全相同，所以我可以坦然回去了。以大倉爲首的業主們很客氣的增加我的設計費以表示對我的感激，並舉辦了盛大的酒會歡送我，之後飯店委員會又在茶館裏招待我，每個人都表現了十分尊重的態度，最後工人們也同樣熱烈地對我，下面就是明証：

當開船的那天，我必須從後面穿過建築物到前面去取車子，經過時，我很奇怪地發現竟然沒有人工作，但當我走到入口中庭時，却發現所有的工人都聚集在那兒，等待著、張望著，雖然我早已知道他們對我的感激，但眼前的情況却証實了這種想法，這只會在日本發生，在工作中我曾試著去讚揚並尊重這種精神。

當我出現時他們立刻圍在我的四週，從掃地工友到這場“交易”的負責人，每個階層都有，有的掉著淚、有的微笑著、迫切地想與我握手——外國習慣，他們已學會了英語“好”，並摻雜著日語“謝謝”及“再見！萊特先生”。

“萊特先生”的喊聲不斷，他們跟著車沿

director became a spy. The walls had ears. Propaganda increased. My freedom was gone. I worked under greater difficulties than ever. But my little band of Japanese apprentices was loyal and we got ahead until another storm broke.

“Why not,” said the directors to the Baron, “eliminate the pool and save 40,000 yen?” The Baron saw sense in this and sent for me. His mind was made up. No arguments took effect. I told him via interpreters that it was the last resource against the quake. In disaster, the city water would be cut off, and the window frames being wood in the 500-foot building front along the side street where wooden buildings stood, fire could gut the structure even though it withstood the quake. I had witnessed five terrible fires in Tokio already — walls of flame nothing in any degree inflammable could withstand.

No matter. The pool must come out. No, I said, it is wrong to take it out, and by such interference he would release me from my agreement and I could and would go home with no further delay. And I left his office. But I did not leave Tokio and the pool went in to play its final part in the great drama of destruction that followed two years later.

Another year and I could go home. The Tokio climate, so moist and humid summer and winter, depressing except in fall and early spring together with the work and anxiety were wearing me down.

Now came a terrible test that calmed troublesome fears: made the architect's position easier.

The building construction was about finished. The architect's work-room had been moved to the top of the left wing above the promenade entrance. It was nearly noon. The boys in the office, reduced

fifty-two years. The building was undamaged. A transit put on the foundation levels showed no deviation whatever.

The work had been proved.

Hayashi-San, when reports of the damage to the city and none to the building came in, burst into tears of gratitude. His life had barely been worth living for more than a year, so cruel were the suspicions, so harassing the doubts. The year passed. The building was now so nearly complete there was no longer pressing need for the presence of the architect.

Another wing remained to be finished but it was a duplication of the one already done and furnished. So I could go home with a good conscience. My clients, headed by the Baron, were generous, added substantial proof of appreciation to my fee, and I was “farewelled” first at a champagne luncheon by the Baron and his directors; then at a tea-house entertainment by the building organization itself, all with unique expressions of esteem; finally by the workmen after their no less generous fashion. Witness:

The day of sailing came. To get to my car I had to pass from the rear through the new building to the front. All was deserted and I wondered. Arrived at the entrance courts, there all the workmen were crowding the spaces, watching and waiting. Already there had been gratifying evidence of appreciation — I thought — but here was the real thing. This could have happened nowhere but in Japan. Here was the spirit I had tried to compliment and respect in my work.

As their architect came out they crowded round,

著日比谷路一直到車站，邊跑邊喊著“Banzai，萊特先生，banzai”

港口在橫濱，離此地約80哩，當我乘火車抵達那時，看到約有60位工頭從東京趕來，船慢慢駛出港口，他們的身影也逐漸縮小，然而却仍不斷地喊著並揮著手，我感慨著：這麼好的人民，世界上那裡會有這麼誠摯溫馨的友誼？或者根本不可能？

兩年之後——1923年——洛杉磯大街小巷到處都報導著日本大地震的消息，東京與橫濱兩城市全部毀滅了，這是歷史上最大的地震。

每天從日本都傳來令人心驚肉跳的詳細消息，似乎，所有的建設都毀滅了，我十分擔心帝國大飯店及執行、遠藤、林先生、男爵等留在那兒的朋友的命運，焦慮的整晚無法睡覺。終於，在第三天凌晨兩點鐘左右的時候，電話鈴響了，檢察官希望通知我帝國大飯店完全毀壞了，我心一直往下沉，但却笑著問：“他們怎麼知道的？”夜間編輯唸著電報，一連串的帝國大學、帝國劇院、帝國色院、帝國這帝國那的……。

「你看」，我說：「帝國飯店是多麼容易與其它的帝國相混淆？我相信，如果東京還有任何建築物存在，那一定是帝國大飯店。假若你把它倒塌的“新聞”刊登出來，你一定會走路的。」

他們大笑地掛了電話，接著以後十天，因

直接通訊中斷，所得到的都是一些不確定而且混亂的報導。最後，來了一個電報……。

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法蘭克・洛伊德・萊特

加州好來塢沃蒙特大道 B1645 號 奧立佛希爾研究室

下列電文來自日本東京：

“飯店完好如初地屹立著，它是閣下卓越才智的象徵，它為數以百計無家可歸的人們提供了完善的服務，恭喜你”

簽名：OKURA IMPEHD

這真是個好消息，接著，大倉先生以電報閃電般地把這有意義的勝利傳到世界每個角落，但他在東京的兩幢房子却全倒了，他贈給東京一幢壯麗的博物館及其裡面所有的珍藏也全毀了。在東京他唯一擁有的，就是這幢由我所設計的帝國大飯店；記得他曾握著我的手支持我並使它能完成，而現在它是任何愛與金錢也無法買到的，甚至無法買到裡面所有的任何東西。

朋友們的信件接連著來了，他們大部份都平安無事，最令我感到欣慰的消息是：當強烈的初震過去後，到處是堆積如山的屍體

日本人心有餘慄地扶老携幼的紛紛躲進飯店的中庭及平台上，祈禱老天能像佑護這幢建築物一樣地佑護他們。然後，當那無情的烈火挾著人們悲慘的哭號越過城市，漸漸向飯店側面燒過來時，侍者們由水池邊開始排成一列，用水桶盛水，澆濕建築物側面窗框，以抵抗由狹窄街道旁所傳過來的火舌，——水池的水，是那時全區僅有的水源。

我為了帝國飯店安全所採用最後的一個構想也奏效了。

workmen of every rank from sweepers to foremen of “the trades.” laughing, weeping, wanting awkwardly to shake hands — foreign fashion. They had learned “aw-right,” and mingled it now with “arigato” and “sayonara Wrieto-San.”

Too much, and “Wrieto-San” broke. They followed the car down along Hibiya way to the station, running, shouting “Banzai, Wrieto-San, banzai!”

The dock at Yokohama, eighteen miles away, was reached by train, to find that sixty of the foremen had paid their way down from Tokio to shout again and wave good-bye, while they faded from sight as the ship went down the bay. Such people! Where else in all the world would such touching warmth of kindness in faithfulness be probable or even possible?

Two years later — 1923 — in Los Angeles. News of terrible disaster shouted in the streets. Tokio and Yokohama wiped out! The most terrible temblor of all history!

Appalling details came day after day. Nothing human, it seemed, could have withstood the cataclysm. Too anxious to get any sleep I tried to get news of the fate of the New Imperial, of Shugio, Endo, Hayashi-San, the Baron and the host of friends I had left over there. Finally, the third night and about two in the morning the telephone bell rang. The *Examiner* wished to inform me that the Imperial Hotel was completely destroyed. My heart sank but I laughed, “How did they *know*?” The night editor read the dispatch, a list of Imperial University, Imperial Theater, Imperial Hospital, Imperial this and Imperial that.

“You see.” I said, “how easy it is to get the

Imperial Hotel mixed with the other Imperials? I am sure if anything is above ground in Tokio it is that building. If you print this destruction as ‘news’ you will have to retract.”

Their turn to laugh and hang up the receiver. Ten days of uncertainty and conflicting reports, for during most of that time direct communication was cut off. Then a cablegram ...

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FRANK LLOYDE WRIGHT

OLIVE HILL STUDIO RESIDENCE B 1645 VERMONT AVE. HOLLYWOOD CALIF. FOLLOWING WIRELESS RECEIVED FROM TOKIO TODAY HOTEL STANDS UNDamAGED AS MONUMENT OF YOUR GENIUS HUNDREDS OF HOMELESS PROVIDED BY PERFECTLY MAINTAINED SERVICE CONGRATULATIONS SIGNED OKURA IMPEHO

For once good news was news and the Baron’s cablegram flashed around the world to herald the triumph of good sense. Both the great Tokio homes of the Baron were gone. The splendid museum he gave to Tokio and all its contents were destroyed. The building by the American architect, whose hand

he took and whose cause he sponsored, was all he had left in Tokio — nor could love or money buy it now or buy a share of stock in it.

When the letters began to come in and nearly all the friends were found to be safe, the news most gratifying to the architect was the fact that after the first great quake was over, the dead rotting there in unburied heaps, the Japanese in subsequent shocks coming in droves, dragging their children into the courts and onto the terraces of the building, praying for protection by the God that has protected that building; then as the wall of fire, driving a great wail of human misery before it, came sweeping across the city toward the long front of the building, the hotel boys formed a bucket line to the big pool, the water there the only water available anywhere. And then kept the window sashes and frames on that side wet to meet the flames that came leaping across the narrow street.

The last thought for the safety of the New Imperial had taken effect.

*The text quoted from the definitive edition of an autobiography by Frank Lloyd Wright, Horizon Press, New York
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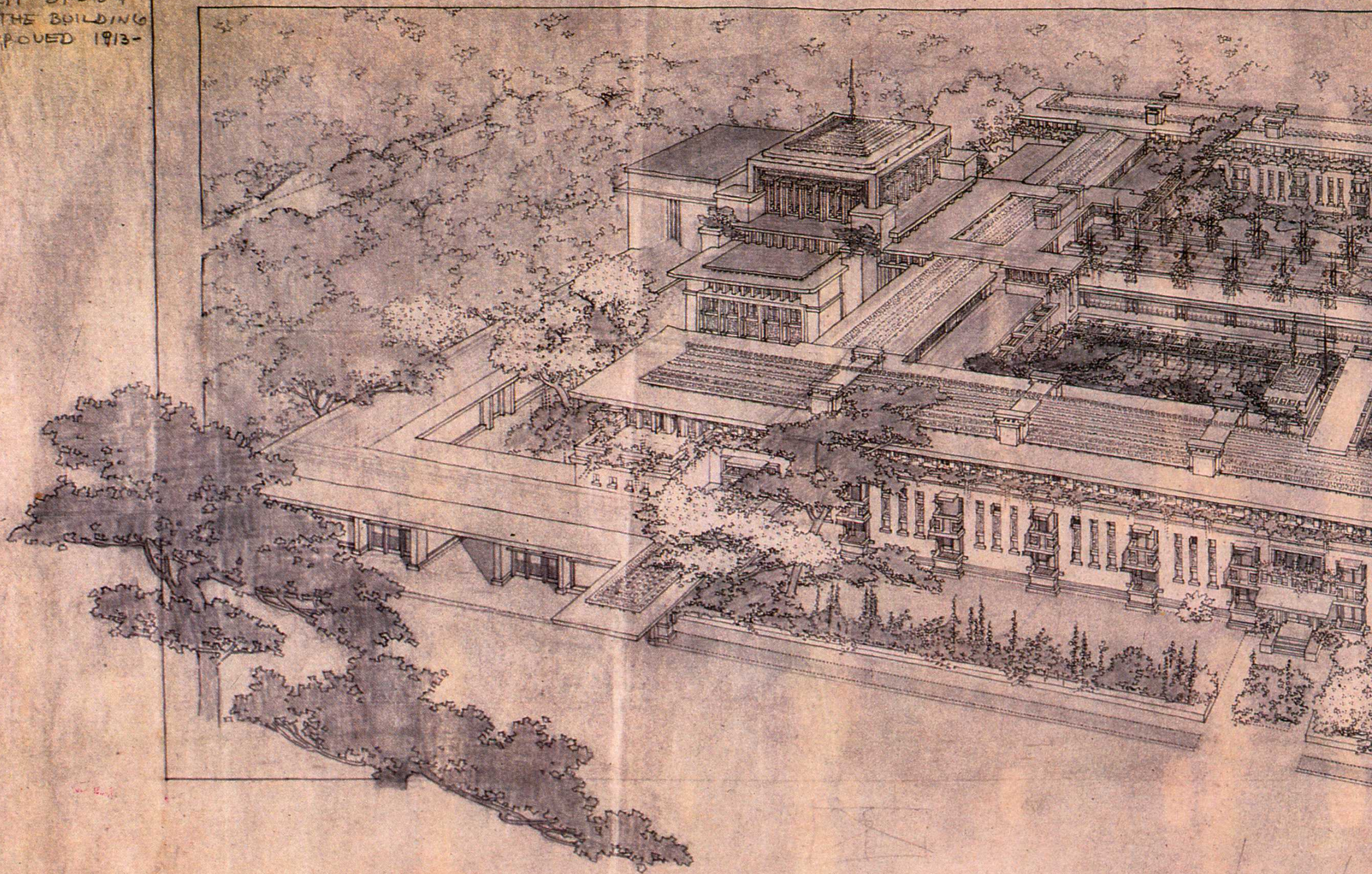
Frank Lloyd Wright
The Imperial Hotel, Tokyo, Japan. 1915-22







FIRST STUDY
OF THE BUILDING
APPROVED 1913-



IMPERIAL HOTEL TOKIO JAPAN
GENERAL VIEW
FRANK LLOYD WRIGHT
ARCHITECT
CHICAGO ILLINOIS

